

$$\dot{Q}_h^{k=1}(T_j) = \begin{cases} \dot{Q}_h^{k=1}(47) + \frac{[\dot{Q}_h^{k=1}(62) - \dot{Q}_h^{k=1}(47)] * (T_j - 47)}{62 - 47}, & \text{if } T_j \geq 40 \text{ } ^\circ\text{F} \\ \dot{Q}_h^{k=1}(17) + \frac{[\dot{Q}_h^{k=1}(35) - \dot{Q}_h^{k=1}(17)] * (T_j - 17)}{35 - 17}, & \text{if } 17 \text{ } ^\circ\text{F} \leq T_j < 40 \text{ } ^\circ\text{F} \\ \dot{Q}_h^{k=1}(17) + \frac{[\dot{Q}_h^{k=1}(47) - \dot{Q}_h^{k=1}(17)] * (T_j - 17)}{47 - 17}, & \text{if } T_j < 17 \text{ } ^\circ\text{F} \end{cases}$$

$$\dot{E}_h^{k=1}(T_j) = \begin{cases} \dot{E}_h^{k=1}(47) + \frac{[\dot{E}_h^{k=1}(62) - \dot{E}_h^{k=1}(47)] * (T_j - 47)}{62 - 47}, & \text{if } T_j \geq 40 \text{ } ^\circ\text{F} \\ \dot{E}_h^{k=1}(17) + \frac{[\dot{E}_h^{k=1}(35) - \dot{E}_h^{k=1}(17)] * (T_j - 17)}{35 - 17}, & \text{if } 17 \text{ } ^\circ\text{F} \leq T_j < 40 \text{ } ^\circ\text{F} \\ \dot{E}_h^{k=1}(17) + \frac{[\dot{E}_h^{k=1}(47) - \dot{E}_h^{k=1}(17)] * (T_j - 17)}{47 - 17}, & \text{if } T_j < 17 \text{ } ^\circ\text{F} \end{cases}$$